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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,896

07/24/2003

Shinji Yoshihara

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23400

7590

12/03/2004

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EXAMINER

KIELIN, ERIK J

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/625,896

Applicant(s)

YOSHIHARA ET AL.

Examiner

Erik Kielin

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/24/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the gauge resistors" in line 12. There is insufficient antecedent basis for this limitation in the claim because previously recited is "four gauge resistors" and "divisional gauge resistors." It is unclear as to which set of gauge resistors is being referred.

Claim 1 recites the limitation "the midpoint" in lines 20-21. There is insufficient antecedent basis for this limitation in the claim because previously recited is "respective first midpoints" and "respective second midpoints." It is unclear as to which midpoint specifically is being referred, as there are plural midpoints in each of the sets of first and second midpoints.

Claim 1 recites the limitation "the wiring pattern" in the last two lines. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the gauge resistors" in line 12. There is insufficient antecedent basis for this limitation in the claim because previously recited is "four gauge resistors" and "divisional gauge resistors." It is unclear as to which set of gauge resistors is being referred.

Claim 4 recites the limitation "the midpoint" in the last line. There is insufficient antecedent basis for this limitation in the claim because previously recited is "respective first midpoints" and "respective second midpoints." It is unclear as to which midpoint specifically is being referred, as there are plural midpoints in each of the sets of first and second midpoints.

Claims 1 and 4 are further considered indefinite because the term "plurality terminals" is unclear. There appears to exist no written description of exactly what "plurality terminals" are.

The remaining claims are rejected for depending from the above rejected claims.

For the purposes of patentability, the claims will be interpreted as best understood.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,422,088 B1 (**Oba** et al.), assigned to the same assignee as the instant application (specifically Denso Corp.).

Regarding claims 1 and 4, **Oba** discloses a semiconductor dynamic quantity sensor comprising:

a semiconductor substrate 1 that has a diaphragm 2 changing a shape thereof in accordance with an application of a dynamic quantity (Figs. 2, 7B, 9B);

a bridge circuit that has four gauge resistors (taken to be RA, RB, RC and RD) formed on the semiconductor substrate, resistances of the four gauge resistors that vary based on a stress with respect to changing the shape of the diaphragm, each of the four gauge resistors that has a plurality of divisional gauge resistors (taken to be RA1, RA2, RA3, RB1, etc.) (Fig. 5; col. 24, lines 28-43);

a pair of first output terminals (taken to be B and C) connected to a pair of respective first midpoints between the gauge resistors, a differential electric potential between the first output terminals that is used as a sensor output (Fig. 5; col. 24, lines 43-59); and

a pair of second output terminals (taken to be B1 and C1) connected to a pair of respective second midpoints between the divisional gauge resistors (RA1, RA2, RC1, and RC2), a differential electric potential between the second output terminals that is used as a diagnostic output (Fig. 5; col. 24, last paragraph),

wherein at least one of the first output terminals has plurality terminals (taken to be, for example, B, B2, and B3) connected to different positions of the midpoint (the center connection point of B, B2, and B3), and

at least one of the second output terminals has plurality terminals (taken to be, for example, A, B1, and C1) connected to different positions of the wiring pattern (Fig. 5).

Regarding claim 2, the semiconductor dynamic quantity sensor according to claim 1, wherein one of the first output terminals (taken to be, for example, B, B2, and B3) has not less

Art Unit: 2813

than three terminals (taken to be, for example, B, B2, and B3), and one of the second output terminals has not less than three terminals (taken to be, for example, A, B1, and C1).

Regarding claim 3, the semiconductor dynamic quantity sensor according to claim 1, wherein the second output terminals (taken to be, for example, A, B1, and C1) make a combination of the second midpoints (taken to be at A) at which an equal electric potential is measured when no pressure is applied to the semiconductor substrate (col. 25, lines 34-47).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 571-272-1693. The examiner can normally be reached on 9:00 - 19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erik Kielin  
Primary Examiner  
November 30, 2004